

Applicants : Niall R. Lynam and John O. Lindahl
Serial No. : 10/054,633
Page : 2

IN THE CLAIMS:

Please cancel Claim 152 and amend Claims 130, 135-141, 148-151, 153-155, 169, 172, 175, 176, 179-182, 251, and 252 as follows:

1-129. (canceled)

130. (currently amended) An improved lighting system for a vehicle, the vehicle having a battery/ignition voltage, said lighting system comprising:

an accessory module assembly adapted for attachment to an interior portion of a vehicle;

said accessory module assembly configured to illuminate an area inside the vehicle when said accessory module assembly is attached to said interior portion of the vehicle;

said accessory module assembly comprising a single non-incandescent light source, said single light source comprising a single high-current high-intensity power light emitting diode;

~~emitting light for illuminating the area with a luminous efficiency of at least about 1 lumen/watt when said single high-current high-intensity power light emitting diode delivering a luminous efficiency of at least about 1 lumen/watt when [[is]] operated and wherein said single high-intensity power light emitting diode is operated at a forward current of at least about 100 milliamps and a forward operating voltage less than about 5 volts; [[and]]~~

~~a voltage conversion element operable to step-down an input voltage and to step-up an input current, said voltage conversion element having an output voltage and an output current whereby the ratio of said input voltage of said voltage conversion element to said output voltage of said voltage conversion element is at least about 2 to 1 and wherein the ratio of said input current of said voltage conversion element to said output current of said voltage conversion element is at least about 1 to 2; and~~

~~and said voltage conversion element providing said outputs to said single high-current high-intensity power light emitting diode whereby said output current is at least about 100 milliamps and said output voltage is less than about 5 volts for converting the battery/ignition voltage of the vehicle to the forward operating voltage of the light emitting diode, said voltage conversion element stepping down the battery/ignition voltage of the~~

Applicants : Niall R. Lynam and John O. Lindahl
Serial No. : 10/054,633
Page : 3

~~vehicle to the forward operating voltage of the light emitting diode and correspondingly stepping up current; and~~

~~said voltage conversion element having a step down ratio of at least about 2 to 1 for voltage and a step up ratio of at least about 2 to 1 for current.~~

131. (original) The improved lighting system according to Claim 130, wherein said area is at a distance of greater than about 20 inches from said accessory module assembly.

132. (original) The improved lighting system according to Claim 130, wherein said area is at a distance of less than about 40 inches from said accessory module assembly.

133. (original) The improved lighting system according to Claim 130, wherein said area is at a distance in a range of about 20 to 40 inches from said accessory module assembly.

134. (canceled)

135. (currently amended) The improved lighting system according to Claim 130, wherein said ratio of said input voltage of said voltage conversion element to said output voltage of said voltage conversion element ~~is has a step down ratio of~~ at least about 4 to 1.

136. (currently amended) The improved lighting system according to Claim 130, wherein said ratio of said input voltage of said voltage conversion element to said output voltage of said voltage conversion element ~~is has a step down ratio of~~ at least about 6 to 1.

137. (currently amended) The improved lighting system according to Claim 130, wherein said single high-current high-intensity power light emitting diode emits at least about 1 lumen.

138. (currently amended) The improved lighting system according to Claim 130, wherein said single high-current high-intensity power light emitting diode emits at least about 5 lumens.

Applicants : Niall R. Lynam and John O. Lindahl
Serial No. : 10/054,633
Page : 4

139. (currently amended) The improved lighting system according to Claim 130, wherein said single high-current high-intensity power light emitting diode emits at least about 10 lumens.

140. (currently amended) The improved lighting system according to Claim 251, wherein said heat dissipation element includes a reflective surface for reflecting light emitted by said single high-current high-intensity power light emitting diode.

141. (currently amended) The improved lighting system according to Claim 140, said accessory module assembly including a light directing element, said light directing element directing light emitted from said single high-current high-intensity power light emitting diode toward the area of the vehicle.

142. (previously presented) The improved lighting system according to Claim 251, wherein said heat dissipation element comprises a heat sink.

143. (original) The improved lighting system according to Claim 142, wherein said heat sink comprises a metal heat sink.

144. (original) The improved lighting system according to Claim 142, wherein heat sink includes a heat dissipation surface area of at least about 1 square inch.

145. (original) The improved lighting system according to Claim 144, wherein said heat sink includes a plurality of fins providing said dissipation surface area.

146. (original) The improved lighting system according to Claim 142, wherein said accessory module assembly includes a reflector, said reflector comprising said heat sink.

147. (original) The improved lighting system according to Claim 142, wherein said accessory module assembly includes said heat sink.

Applicants : Niall R. Lynam and John O. Lindahl
Serial No. : 10/054,633
Page : 5

148. (currently amended) The improved lighting system according to Claim 142, wherein said high-current single high-intensity power light emitting diode is thermally coupled to said heat sink.

149. (currently amended) The improved lighting system according to Claim 148, wherein said single high-current high-intensity power light emitting diode is thermally coupled to said heat sink by a heat sink compound.

150. (currently amended) The improved lighting system according to Claim 130, wherein said output current is at least single high-intensity power light emitting diode operates at forward current greater than about 250 milliamps.

151. (currently amended) The improved lighting system according to Claim 130, wherein said output current is at least single high-intensity power light emitting diode operates at forward current greater than about 350 milliamps.

152. (canceled)

153. (currently amended) The improved lighting system according to Claim 130, wherein said output single high-intensity power light emitting diode operates at an operational voltage [[of]] is at least about 2 volts.

154. (currently amended) The improved lighting system according to Claim 130, wherein said output single high-intensity power light emitting diode operates at an operational voltage is in a range from about 2 to about 5 volts.

155. (currently amended) The improved lighting system according to Claim 130, wherein said single high-current high-intensity power light emitting diode operates at an operational voltage that is less than a percentage of the battery/ignition voltage of the vehicle to which said accessory module assembly is adapted to attach, wherein said percentage is about 50%.

156. (original) The improved lighting system according to Claim 155, wherein said percentage is about 35%.

Applicants : Niall R. Lynam and John O. Lindahl
Serial No. : 10/054,633
Page : 6

157. (original) The improved lighting system according to Claim 155, wherein said percentage is about 20%.

158. (original) The improved lighting system according to Claim 155, wherein the battery/ignition voltage is about 12 volts nominal.

159. (previously presented) The improved lighting system according to Claim 155, wherein the battery/ignition voltage is a range of about 12 volts nominal to 42 volts nominal.

160. (previously presented) The improved lighting system according to Claim 252, wherein said power resistor is rated to dissipate at least about 2.5 watts of power.

161. (original) The improved lighting system according to Claim 160, wherein said power resistor is rated to dissipate at least about 3.0 watts of power.

162. (original) The improved lighting system according to Claim 160, wherein said power resistor is rated to dissipate at least about 3.5 watts of power.

163. (previously presented) The improved lighting system according to Claim 252, wherein said accessory module assembly includes said power resistor.

164. (previously presented) The improved lighting system according to Claim 130, wherein said accessory module assembly includes said voltage conversion element.

165. (previously presented) The improved lighting system according to Claim 251, wherein said accessory module assembly includes said heat dissipation element.

166. (original) The improved lighting system according to Claim 130, wherein said accessory module assembly comprises a light assembly.

167. (original) The improved lighting system according to Claim 130, wherein said accessory module assembly comprises a removable light assembly.

Applicants : Niall R. Lynam and John O. Lindahl
Serial No. : 10/054,633
Page : 7

168. (original) The improved lighting system according to Claim 130, further comprising a mirror assembly, said accessory module assembly located at said mirror assembly.

169. (currently amended) The improved lighting system according to Claim 130, wherein said accessory module assembly includes a lens, and light from said single high-current high-intensity power light emitting diode passing through said lens.

170. (original) The improved lighting system according to Claim 169, wherein said lens comprises one of a diffractive optical element and a refractive optical element.

171. (original) The improved lighting system according to Claim 169, wherein said lens comprises a lens chosen from a fresnel-optic lens, a binary-optic lens, a diffusive-optic lens, a holographic-optic lens, and a sinusoidal-optic lens.

172. (currently amended) The improved lighting system according to Claim 251, wherein said heat dissipation element comprises a heat sink/reflector for dissipating heat from said single high-current high-intensity power light emitting diode and for directing light from said single high-intensity power light emitting diode.

173. (original) The improved lighting system according to Claim 172, wherein said heat sink/reflector comprises a metal reflector having a high heat conductivity.

174. (original) The improved lighting system according to Claim 173, wherein said metal reflector comprises a metal material chosen from copper, a copper alloy, aluminum, and brass.

175. (currently amended) The improved lighting system according to Claim 172, wherein said heat sink/reflector is configured to shape light emitted from said single high-current high-intensity power light emitting diode.

Applicants : Niall R. Lynam and John O. Lindahl
Serial No. : 10/054,633
Page : 8

176. (currently amended) The improved lighting system according to Claim 166, wherein said accessory module assembly includes a heat dissipation element adapted to dissipate heat from said single high-current high-intensity power light emitting diode.

177. (previously presented) The improved lighting system according to Claim 166, wherein said accessory module assembly includes a power resistor.

178. (previously presented) The improved lighting system according to Claim 130, wherein said accessory module assembly includes said voltage conversion element.

179. (currently amended) The improved lighting system according to Claim 176, wherein said heat dissipation element comprises a heat sink/reflector for dissipating heat from said single high-current high-intensity power light emitting diode and for directing light from said single high-current high-intensity power light emitting diode.

180. (currently amended) The improved lighting system according to Claim 130, wherein said single high-current high-intensity power light emitting diode dissipates at least about one watt of power when operated.

181. (currently amended) The improved lighting system according to Claim 130, wherein said single high-current high-intensity power light emitting diode dissipates at least about 1.5 watts of power when operated.

182. (currently amended) The improved lighting system according to Claim 130, wherein said single high-current high-intensity power light emitting diode dissipates at least about 2 watts of power when operated.

183. (original) The improved lighting system according to Claim 130, wherein said interior portion comprises a header portion.

184. (original) The improved lighting system according to Claim 130, wherein said interior portion comprises an interior rearview mirror assembly.

Applicants : Niall R. Lynam and John O. Lindahl
Serial No. : 10/054,633
Page : 9

185-250. (canceled)

251. (currently amended) The improved lighting system according to Claim 130, further comprising a heat dissipation element adapted to dissipate heat from said single high-current high-intensity power light emitting diode.

252. (currently amended) The improved lighting system according to Claim 130, further comprising a power resistor in series with said single high-current high intensity light emitting diode.